



Figure 1 Chest X-ray before treatment

the age of 13 and now smoked it daily. Previously he had mixed the cannabis with tobacco but increasingly he had been using it unmixed.

On examination of the chest there was decreased air entry bilaterally and the trachea was central. Oxygen saturations on 10 L/min via a reservoir bag were 60%, respiratory rate 30. Arterial blood pO_2 was 5.78 kPa, pCO_2 9.09 kPa, pH 7.13. Mobile chest radiography showed bilateral pneumothoraces, with complete collapse of the left lung (Figure 1). After needle decompression, chest drains were inserted bilaterally, with relief of symptoms.

A subsequent high-resolution CT scan showed entirely normal lung parenchyma, mediastinum and airways. On respiratory function testing, transfer factor was normal but spirometry suggested a mild restrictive pattern (forced expiratory volume 3.0 L [63%], forced vital capacity 3.9 L [69%]) but the technician felt the tests were hampered by patient discomfort from the chest drains. There were no clinical findings suggestive of Marfan's syndrome or ankylosing spondylitis. Because of the high risk of further pneumothoraces he was transferred to a specialist centre for pleurodesis, from which he discharged himself without having the operation.

COMMENT

Though cannabis (marijuana) is an illegal drug in the UK, it is widely used in the 18–25-year age group. In those who smoke it there are increasing reports of detrimental effects on the respiratory tract.¹ An association between spontaneous pneumothorax and pneumomediastinum with

marijuana has previously been described.^{2,3} A suggested mechanism is coughing while breath-holding in inspiration, for example, after taking a draw on a 'joint'.³ Perhaps this was the explanation in the present case.

Cannabis apart, the risk of pneumothorax seems to be increased by tobacco smoke,⁴ and the two may be synergistic.³ Our patient was unusual in not regularly mixing them. The separate influence of cannabis is hard to investigate; moreover, patients may be reluctant to disclose information about use of other illicit drugs. For example, bilateral pneumothorax has been reported after cocaine smoking.⁵

REFERENCES

- 1 British Lung Foundation. *A Smoking Gun? The Impact of Cannabis Smoking on Respiratory Health*. London: BLF, 2002
- 2 Feldman AL, Sullivan JT, Passero MA, Lewis DC. Pneumothorax in polysubstance abusing marijuana and tobacco smokers: three cases. *J Subst Abuse* 1993;**5**:183–6
- 3 Miller WE, Spiekerman RE, Hepper NG. Pneumomediastinum resulting from performing Valsalva manoeuvres during marijuana smoking. *Chest* 1972;**62**:233–4
- 4 Bense L, Ekland G, Odont D. Smoking and the increased risk of contracting spontaneous pneumothorax. *Chest* 1987;**92**:1009–12
- 5 Maeder M, Ullmer E. Pneumomediastinum and bilateral pneumothorax as a complication of cocaine smoking. *Respiration* 2003;**70**:407

Optic neuropathy and orbital inflammatory mass after wasp stings

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A very rare sequela to bee or wasp stings is optic neuropathy. Goldstein *et al.* reported the first bee-associated case in 1960¹ and we have found only two in connection with wasp stings.

CASE HISTORY

A previously healthy woman of 74 years sustained several paper wasp (*Polistes humilis*) stings to her left periorbital region

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while gardening. She did not recall being stung before and had no ophthalmic history. Over the ensuing weeks she developed periorbital pain, a pea-sized nodule by her left lower eyelid and gradual blurring with disturbed colour vision in her left eye. On examination visual acuity was 6/6 right and 6/24 with no improvement on pinhole left; previously an optometrist had recorded acuities as 6/6 in either eye. A left relative afferent pupillary defect (RAPD) was present with reduction in colour vision of the left eye, and a central scotoma was demonstrated on confrontation fields. The anterior segment was white and quiet with normal intraocular pressure, and on dilated fundal examination the optic disc appeared normal. At 1 month follow-up, left visual acuity had improved to 6/12 with a persistent RAPD and no colour vision. A large nodule some 1.5×1.0 cm was now palpable over the inferonasal aspect of the left orbit. Electrophysiological tests revealed abnormal visual evoked potentials with both delay and decreased amplitude, consistent with an inflammatory optic neuritis.

She was reviewed after a further 3 months, at which time left visual acuity was 6/9, with improving colour vision, and the RAPD had resolved. CT of the left orbit revealed a cystic lesion arising from the inner canthal region extending posteriorly in close relation to the medial rectus. Because this mass was causing an ectropion (outturned eyelid) and secondary epiphora, it was excised; the histology was reported as fibroadipose tissue with a giant-cell reaction consistent with a panniculitis. At her last review, 24 months after the initial injury, left visual acuity remained 6/9 with full resolution of symptoms and clinical signs.

COMMENT

The stings of wasps, bees and hornets (Hymenoptera) are painful but usually inconsequential. Ocular complications include retained foreign body, conjunctivitis, corneal oedema or perforation, keratitis, mydriasis, optic nerve swelling and visual loss. Chen *et al.*² reported chemosis, corneal oedema, hyphaema and cataract formation in a single case. Our patient developed a constellation of symptoms and signs after her stings consistent with an optic neuropathy. This is a very rare complication;^{3–5} moreover, no previous report describes simultaneous development of optic neuropathy and an orbital inflammatory granuloma.

With regard to the mechanism of optic nerve damage, allergic, immune and toxic phenomena have been implicated and there is probably an interplay between all three. Hymenoptera venom is known to contain histamine and dopamine, polypeptide toxins and high molecular weight enzymes such as phospholipase and hyaluronidase.⁶ It also possesses anticholinesterase-like activity.⁷ Hypersensitivity reactions to stings may be immediate (acute anaphylaxis) or delayed, involving the nervous system

including the optic nerve. Song and Wray measured visual evoked potentials soon after an ocular bee sting and proposed an acute and irreversible demyelination of the optic nerve secondary to an allergic response to the venom.⁴ In our case, however, it was probably a delayed immune-mediated reaction that triggered both the optic neuropathy (distant effect) and development of the orbital mass (local effect at sting site). Indeed, the clinical course was typical of the demyelinating type seen in multiple sclerosis or postviral illness, in which the prognosis is good. The optic nerve pathology is likely to have been retrobulbar, since the optic disc appeared normal. If we had seen the patient earlier, we might have given prednisolone to control the inflammatory response.

REFERENCES

- Goldstein N, Rucker C, Woltman H. Neuritis after insect stings. *JAMA* 1960;**173**:1727–30
- Chen C, Richardson C. Bee sting-induced ocular changes. *Ann Ophthalmol* 1986;**18**:285–6
- Singh I, Chaudhary U. Bilateral optic neuritis following multiple wasp stings. *J Ind Med Assoc* 1986;**84**:251–2
- Song H-S, Wray S. Bee sting optic neuritis. *J Clin Neuro-Ophthalmol* 1991;**11**:45–9
- Maltzman J, Lee A, Miller N. Optic neuropathy occurring after bee and wasp sting. *Ophthalmology* 2000;**1**:193–5
- Walsh J. Composition and mode of action of some invertebrate venoms. *A Rev Pharmacol* 1964;**4**:293–304
- Ishay JS. Anticholinesterase-like activity by oriental hornet venom and venom sac extract. *Experientia* 1979;**15**:636–9

'Football' contact lenses— an own goal

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Designer cosmetic contact lenses are increasingly popular. As with prescription contact lenses, the complications range from self-limiting to sight-threatening.

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